

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT <i>ENGINEERING DIVISION</i> APPLICATION PROCESSING AND CALCULATIONS	PAGES 8	PAGE 1
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	PROCESSED BY LI CHEN	CHECKED BY

PERMIT TO OPERATE

COMPANY NAME AND ADDRESS

Los Angeles Department of Water and Power
111 North Hope Street, Room 1050
Los Angeles, CA 90012

Contact: Dat Quach, 231.367.4697

EQUIPMENT LOCATION

LA City, DWP Scattergood Generation Station
12700 Vista Del Mar
Playa Del Rey, CA 90293
SCAQMD ID #800075

EQUIPMENT DESCRIPTION

Section D of the Facility Permit, ID# 800075, Permit to Operate

Equipment	ID No.	Connected To	Source Type/ Monitoring Unit	Emissions	Conditions
Process 6: EXTERNAL COMBUSTION; POWER GENERATION					
INTERNAL COMBUSTION ENGINE, EMERGENCY POWER, DIESEL FUEL, CUMMINS, MODEL VT12-700-G5, WITH AFTERCOOLER, TURBOCHARGER, 700 HP	D19	NOX: PROCESS UNIT*		NOX: 469 LBS/1000 GAL DIESEL (1) [RULE 2012] PM: (9) [RULE 404]	<u>C1.3</u> , D12.3, <u>E116.1</u> , E162.1, E262.1, <u>E448.1</u> , <u>E448.2</u> , <u>K67.4</u>
A/N: 134734 <u>451827</u>					

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BACKGROUND

The Los Angeles Department of Water and Power (LADWP) operates the Scattergood Generation Station for electricity generation. It includes three boiler generators (Units 1, 2, and 3). The facility has an emergency generator to provide backup power in case of power failure and emergencies. This generator is a diesel IC engine, permitted by AQMD on June 6, 1986. The application number is 134734. The device number is D19.

After the device was permitted the District enacted a new rule, Rule 1470. Rule 1470 applies to diesel-fueled internal combustion engines such as this emergency generator. Rule 1470 requires low sulfur diesel, restricts operating hours and conditions, and sets conditions for maintenance and reporting. Facilities shall submit compliance plans for the diesel-fuel IC engines to demonstrate compliance with Rule 1470. LADWP has submitted the compliance plan, and the plan has been approved.

This application is to add a condition that allow the facility to conduct annual maintenance and testing for up to 20 hours in accordance with Rule 1470.

The application was received on December 21, 2005, and deemed completed on January 20, 2006. The following table shows the application numbers.

Table 1 Application Numbers

Applications	Purpose
451827	Add a condition per Rule 1470 (Administrative Changes)
451828	Title V Facility Permit Modification

LA DWP is a Title V facility and participates in the NO_x RECLAIM program.

PROCESS DESCRIPTION

The emergency IC engine is a diesel-fueled Cummins, Model VT12-700-G5. It is turbocharged and is equipped with an aftercooler. It is rated 700 braking horsepower. It is a NO_x Process Unit.

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EMISSIONS

Emissions were determined in A/N134734 using manufacturer provided emission limits, and assuming 199 hours of annual operation. The proposed 20 hours of annual maintenance will not add to the 199 hours of allowed regular operation. Thus, emissions remain the same.

Pollutants	Hourly Emissions (lb/hr)	Max Daily Emissions (lb/day)	30-Day Average	Annual Emissions (lbs)
CO	3.3	79	22	657
NOx	15.0	360	100	2985
PM10	1.1	26	7	219
VOC	1.2	29	8	239
SOx	0.51	12	3	101.5

RULES EVALUATION

Title 40 Part 60, Subpart IIII – NSPS for IC Engines

This regulation applies to compression ignition IC engines that are in service or reconstructed after July 11, 2005. The engine was in service since 1986. This application is not a modification or alternation. This regulation does not apply.

Title 40 Part 63, Subpart ZZZZ – NESHAP for IC Engines

The facility is a NESHAP area source because the facility total HAP emissions are less than 10 tons per year. The subject engine was constructed before 2006. Therefore, it is existing stationary engine > 500 HP located at area sources of HAP, constructed before June 12, 2006. This regulation established monitoring, operation and maintenance requirement. The requirements are:

Emissions Limitations: §63.6603, Table 2d

- A. Change oil and filter every 500 hours of operation or annually, whichever comes first;
- B. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first;
- C. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.

Monitoring, Operation and Maintenance Requirement: §63.6625(e), (f), (h), (i)

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- A. Operate and maintain the engine and emission control device according to the manufacturer's emission-related written instructions.
- B. Minimize idle time and startup time. The idle time and startup time shall not exceed 30 minutes.

Continuous Compliance §63.6605, §63.6640 (f) Requirement of emergency stationary RICE.

- A. Operate less than 100 hours for the purpose of maintenance and testing.
- B. Operate up to 50 hours per year for non-emergency operation.

Requirements of §63.6603 and §63.6625 will be summarized and put in condition E448.
Requirements of §63.6605 and §63.6640 are less stringent than Rule 1470.

Rule 212 – Standards for Approving Permits

There is no school within 1,000 feet of the facility boundary, and there is no emission increase. Public notice is not required.

Rule 401 – Visible Emissions

Visible emissions are not expected under normal operating conditions of the turbines.

Rule 402 – Nuisance

Nuisance problems are not expected under normal operating conditions of the turbines.

RULE 431.2 – Sulfur Content of Liquid Fuels

The rule requires that the facility shall not purchase liquid fuel with sulfur content greater than 15 ppm. Compliance is expected.

RULE 1110.2 – Emissions from IC Engines

The rule does not apply to emergency equipment that operates less than 200 hours per year.

Rule 1300 – New Source Review for Non-RECLAIM Pollutants

NSR is not triggered since emergency equipment is exempted from modeling and offset. This application does not alter the equipment, and does not increase emissions hourly and daily emissions. BACT is not triggered.

RULE 1401 – Toxic Air Contaminants

Emergency equipment is exempted from the requirements of this rule.

RULE 1470 – Requirements for Stationary Diesel-Fueled Internal Combustion Engines

According the Rule 1470 (c)(3)(C)(i)(I) an emergency IC engine that emits a diesel PM at a rate greater than 0.40 g/bhp-hr is allowed up to 20 hours of annual operation for maintenance and testing purposes. This IC engine has a PM emission rate of 1.1 lbs/hr, which is equivalent to

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0.71 g/bhp-hr. Thus, it should be allowed to operate for 20 hours or less per year for maintenance and testing purposes.

The facility is currently in compliance with this rule. It has a District approved Rule 1470 compliance plan in place. Continued compliance is expected.

Rule 2005 – NSR for RECLAIM Pollutants

Modeling is exempted for emergency equipment. BACT is not triggered since there is no emission increase.

Rule 2012 – Monitoring Recording and Record Keeping for RECLAIM

The Harbor facility is currently in compliance with all monitoring, record-keeping, and reporting requirements of Reclaim for the existing facility. The IC engine is a process unit. It is required to report NOx emissions using the 469 lbs/1000 Gallons emission factor

Regulation XXX – Title V

The DWP Harbor facility is currently subject to the Title V requirements. The addition of the IC engine condition is considered a minor Permit Revision according to the definition provided in Rule 3000(b)(12). As required, EPA is afforded the opportunity to review and comment on the project within a 45 day review period.

RECOMMENDATION

The equipment is expected to comply with all the federal, state, and local regulations. It is recommended that a permit to operate be issued with the following conditions.

CONDITIONS

F14.1 The operator shall not use fuel oil containing sulfur compounds in excess of 0.05 percent by weight.

The .05 percent sulfur limit shall not apply to existing supplies of any liquid fuel in storage as of October 1, 1993 until such supply is exhausted.

[RULE 431.2]

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C1.3 The operator shall limit the operating time to no more than 200 hour(s) in any one year.

The 200 hours per year shall include no more than 20 hours in any one year for maintenance and testing purposes.

The operation of the engine beyond the 20 hr/yr allotted for engine maintenance and testing shall be allowed only in the event of a loss of grid power or up to 30 minutes prior to a rotating outage, provided that the grid operator or electric utility has ordered rotating outages in the control area where the engine is located or has indicated that it expects to issue such an order at a certain time, and the engine is located in a utility service block that is subject to the rotating outage.

Engine operation shall be terminated immediately after the utility distribution company advises that a rotating outage is no longer imminent or in effect.

[RULE 1110.2; RULE 1304(a)-Modeling and Offset Exemption; RULE 2012; RULE 1470]

[Devices subject to this condition : D19]

D12.3 The operator shall install and maintain a(n) non-resettable elapsed time meter to accurately indicate the elapsed operating time of the engine.

[RULE 2012, 40 CFR 60.4209(a)]

[Devices subject to this condition : D19]

E116.1 This engine shall not be used as part of a demand response program using interruptible service contract in which a facility receives a payment or reduced rates in return for reducing its electric load on the grid when requested to do so by the utility or the grid operator.

[RULE 1470]

[Devices subject to this condition : D19]

E162.1 The operator shall use this equipment only during utility failure periods, except for maintenance purposes.

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[RULE 1304(a)-Modeling and Offset Exemption]

[Devices subject to this condition : D19]

E262.1 The operator shall, in addition to the requirement(s) of condition(s) listed below, comply with the requirement(s) listed below.

Condition Number E 162- 1

The operator may, in addition to the above requirements, use this equipment for purposes of fuel oil readiness testing

[RULE 1304(a)-Modeling and Offset Exemption]

[Devices subject to this condition : D19]

E448.1 The operator shall comply with the following requirements:

Change oil and filter every 500 hours of operation or annually, whichever comes first;
Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first;
Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.

The engine and the control device shall be operated and maintained in accordance with the manufacturer's written emission-related instructions or procedures developed by the operator that are approved by the engine manufacturer. Changes to those emission-related settings that are set by the manufacturer are not allowed.

[40 CFR 63.6603, 40 CFR 63.6625(e)]

[Devices subject to this condition: D19]

E448.2 The operator shall comply with the following requirements:

The operator shall not purchase fuel oil with sulfur content greater than 15 ppm by weight

[Rule 431.2, Rule 1470]

[Devices subject to this condition: D19]

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K67.4 The operator shall keep records, in a manner approved by the district, for the following parameter(s) or item(s):

Date of operation, the elapsed time, in hours, and the reason for operation. Records shall be kept and maintained on file for a minimum of five years and made available to district personnel upon request.

An engine operating log listing on a monthly basis the emergency use hours of operation, maintenance and testing hours of operation, and any other hours of use with a description of the reason for operation. Additionally, each time the engine is started manually, the log shall include the date of operation and the timer reading in hours at the beginning and end of operation.

The log shall be kept for a minimum of five calendar years prior to the current year and be made available to District personnel upon request. The total hours of operation for the previous calendar year shall be recorded sometime during the first 15 days of January of each year.

[RULE 1110.2; RULE 1470, 6-1-2007]

[Devices subject to this condition: D19]